Teamwork
in interdisciplinary group

Melita Kovačević
University of Zagreb

University of Maribor
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Topics

• Terminology and definitions

• Advantages and disadvantages

• Principles and attributes of interdisciplinary team work

• Rationale for being interdisciplinary
Something about the speaker

• Interdisciplinary educated (social science, humanities, biomedicine)
• Head of (very) interdisciplinary team (linguists, psychologists, phylosopher, speech and language pathologists, physist, electroengineer)
• Director of interdisciplinary doctoral programme
• My present research/teaching field: psycholinguistics, neurolinguistics, cognitive science
Terminology & definitions

- Interdisciplinary vs. multidisciplinary vs. transdisciplinary
- The form or the content?
- Team work vs. individual work
Multi- \rightarrow Inter- \rightarrow Transdisciplinary

- **Integration:** Separated $\rightarrow$ Integrated $\rightarrow$ “Become One”
- **Perspective:** $\geq 2$ disciplinary $\rightarrow$ include stakeholders+
- **Team’s Goals:** Project $\rightarrow$ Learning, New Ideas $\rightarrow$ Problem Oriented
- **Leadership:** Varied Leadership $\rightarrow$ Rotating Leadership?

https://nanohub.org/groups/howpeoplelearnnano/crossdisciplinary_nature_of_nanotechnology
Interdisciplinarity

• In team work/research
• Study programmes
• Doctoral Thesis (cosupervision, team supervision)
• Publishing
• Academic promotion
• Research Committees
• Research projects
Interdisciplinarity

Advantages and disadvantages
Advantages

- Complex research questions
- Necessity for the advancement of science
- Challenging for a researcher
- Expansion of knowledge
Advantages

• Better understanding of broader research topics/community
• Requiring for the flexibility of system
• Personal enrichment in knowledge and communication
• Trigger for new ideas
Disadvantages

• Dangerous feeling of ‘not being competent’
• Being superficial
• ‘Knowing everything, and nothing’
• Time demanding, in particular for young researchers
• Requiring for the flexibility of system
Disadvantages

• Research itself separated from e.g. publishing, composition of committees etc.
• Unclear rules on academic promotion
• Hard to publish
• Feeling of ‘not belonging’ to anyone
Team vs. individually performed research
Teamwork vs. Interdisciplinary group work

• How to define a *Team*?
• More than one?
• Each member is covering a segment of research?
• Is it mosaic or puzzle? What is different?
Team work

Requires additional skills

• To share
• To discuss
• To respect
• To understand
Team work

Does not allow

• To keep it for yourself
• To be egocentric
• Not to respect other’s work
• To attribute to yourself someone’s work
Team work

• Requires a leader (and followers)

• Asks for continuous conversation

• It is much more sensitive, could be fragile, affected by the group dynamics
10 principles of good interdisciplinary team

• Leadership and management
• Communication
• Personal rewards, training and development
• Appropriate resources and procedures
• Appropriate skill mix
• Atmosphere
• Individual characteristics
• Vision
• Quality and outcomes
• Respecting and understanding roles
7 attributes of good interdisciplinary team

- Team purpose
- Goals
- Leadership
- Communication
- Cohesion
- Mutual respect
- Reflection

Focus on the relational aspect of the team
Team purpose
• Effective team has a progressive, well-defined, consensual purpose
• Stimulating intellectual curiosity
• Reducing rigidity

Goals
• Enable long-term planning
• Promote open communication
• Intermediary link between the team purpose and result
Leadership

• Must have credibility
• Have skills to mediate personalities and goals
• Maintaining efficiency and motivation via good feedback and coaching
• Easily switch between leader and follower role
• Sharing leadership roles
Communication

• Information exchange
• Increased interactions
• Trust
• Integration of knowledge
• Increased attention to others
Cohesion

• Extremely relevant; feature of mature teams
• Negatively correlated with member turnover (reduced longevity of the group; reduced productivity)
• Collaborative learning requires familiarity, trust, and respect
• With increase of cohesion, comfort among members develops and personal conversations arise
Mutual respect
• Being open to the talents and beliefs of others
• Understanding the value of own contributions
• Fostered by team members who “think outside the box”

Reflection
• Without team reflection, learning within the team is obstructed
• Thinking of an event, increased awareness of feelings, values, and actions
• Intrapersonal reflection for enhancing professional skills (effective listening and argument clarification)
• Need for strengthening the attributes

• Need for assessing and monitoring characteristics of effective interdisciplinary research team

• Need for identifying strengths and weaknesses

To monitor the attributes is critical for the team productivity
• Discipline differences
  humanities-social sciences vs others?
• Publishing rules
• One author vs two authors vs 25 authors
• One among the equals or?; again, discipline differences
• Not everyone to be interdisciplinary, not everyone to work in team......

but

• Modern research, complex research questions, fast development of technology calls for more and more team work and interdisciplinarity
• Laboratory, studio, office – critical for fostering interdisciplinarity
• Doctoral school encourages doctoral students to take courses together
• Common invited lectures
• Students’ ‘living rooms’
Team work and interdisciplinary team work

- Has to be learned
- Has to be supported
- Needs to be nurtured
- Asks university leadership for restructuring and flexibility

IT IS NOT EASY, but IT IS REWARDING
Thank you